

Message

From: Sutton, Douglas [dsutton@hgl.com]
Sent: 3/26/2020 1:44:00 PM
To: Rossi, Debra [Rossi.Debra@epa.gov]
CC: Theresa Miller (theresa_miller@golder.com) [theresa_miller@golder.com]; Susanna Mays [susanna@TrustSC.com]; Davies, Kathy [Davies.Kathy@epa.gov]
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Ok. Will do. I suspect that any wells with increasing trends that were removed are long-screened wells that now have proper wells installed near them. For example, MW-34 is a long-screened well, and the new 107 cluster is located nearby. The data from the 107 cluster will be more reliable.

We'll confirm and get back to you. Thanks!

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Thursday, March 26, 2020 9:40 AM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <davies.kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Thanks, Doug. Please also let us know criteria used to identify increasing concentrations. Over two sampling events? In a statistical trend analysis, with minimum of 4 samples?

Debra Rossi
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From: Sutton, Douglas <dsutton@hgl.com>
Sent: Thursday, March 26, 2020 9:12 AM
To: Rossi, Debra <Rossi.Debra@epa.gov>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <Davies.Kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Ok. We'll take another look. Thanks.

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Thursday, March 26, 2020 9:05 AM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <davies.kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Thanks, Doug. We noticed a few wells marked "R" in the spreadsheet with increasing concentrations but did not review all of the analytical chemistry trend charts for all of the "R" wells.

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From: Sutton, Douglas <dsutton@hgl.com>
Sent: Thursday, March 26, 2020 8:52 AM
To: Rossi, Debra <Rossi.Debra@epa.gov>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <Davies.Kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Debbie,

Table 1 should include all wells with increasing concentrations. One of the criteria we used to eliminating wells was that the wells had to have stable or decreasing concentrations. Golder will double check today, and we will get back to you confirmation or any additions based on that review.

Thank you,
Doug

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Thursday, March 26, 2020 8:12 AM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <davies.kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Doug,

Please let me know which wells with increasing concentrations, which were not proposed for sampling this spring in Table 1, will be included in the April 2020 event.

Thank you.

Debbie

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From: Sutton, Douglas <dsutton@hgl.com>
Sent: Wednesday, March 25, 2020 5:15 PM
To: Rossi, Debra <Rossi.Debra@epa.gov>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <Davies.Kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Debbie,

Thank you for the quick turnaround on this review. We will move forward accordingly and plan to be in the field starting next Monday.

Thank you,
Doug

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Wednesday, March 25, 2020 4:34 PM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <davies.kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Doug,

EPA approves semi-annual monitoring at wells AWC-E1, AWC-E2, MW-26N and UPA-03D provided Artesian is not relying on bimonthly monitoring data for operations at the Llangollen well field. AWC-E1 should be retained as a monitoring point.

EPA has not completed its review of Golder's March 18, 2020 report comparing results for low-flow vs. 3x volumetric purging and sampling methods for long-screen wells. EPA approves the use of low-flow purging and sampling for the April 2020 monitoring event. After reviewing Golder's report, EPA will determine whether continued use of low-flow purging and sampling will be acceptable in the future.

EPA approves the proposed monitoring well network for April 2020 except that those wells in the approved April sampling program (Table A-6C, SAP-Rev.2) which show increasing concentrations of contaminants should be sampled in April 2020.

Certain wells which are not included in the approved April 2020 groundwater monitoring program (e.g., GA-101) may need to be included in the October sampling event in preparation for the Phase 4 Addendum to the PDI Work Plan which will address contaminated groundwater north of the DDA slurry wall and potential impacts to surface water.

Groundwater samples may be analyzed for 1,4-dioxane using Method 8270 SIM. Please make note of this change in future monitoring reports and, if warranted, contaminant trend charts.

Please provide EPA with well-by-well justification for any proposed revisions to the upcoming October sampling event as compared with the approved monitoring program in Table A-6C of SAP-Rev. 2. Please provide this information to EPA at least two months before the sampling event.

Thank you.

Debbie

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From: Sutton, Douglas <dsutton@hgl.com>
Sent: Thursday, March 19, 2020 12:06 PM
To: Rossi, Debra <Rossi.Debra@epa.gov>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <Davies.Kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Debbie,

Please find an Excel version of the table that has all of the rows unhidden so that the wells that were removed are visible. In addition, Theresa added the following to help with your review:

“A” to indicate locations/monitoring events “added” since the approval of Table A-6C from the SAP

“R” to indicate locations/monitoring events “removed” since the approval of Table A-6C from the SAP

As before, “x” indicates locations/monitoring events which will be sampled/performed for the indicated parameters; and “-” indicates locations which will not be sampled for indicated parameters and/or locations was not included as SAP Rev 2 sampling location. There are counts on the bottom of the page (out of the print area) for the As and Rs. April is a net decrease and October is a “wash”.

With regard to the PFAS, I understand that our SAP said PFAS sampling once per year, but we were hoping to reduce the frequency to once every few years because we believe PFAS is a regional issue and that annual sampling of our network will not provide any more clarity. The one data point that we really wanted to follow-up on this year is the DDA-10-US result, which is why we included that one sample location for the April sampling. If we need to discuss PFAS further, I would like to suggest that EPA review (and hopefully approve) the April and October sampling locations for the site COCs. If after further discussion EPA requires us to sample PFAS this year, we would propose conducting it in the October event so that it is one year after the 2019 event. We would still sample DDA-10-US for PFAS in April of this year since it is a follow-up of our last sample result.

I hope this addresses your questions.

Thank you!
Doug

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Wednesday, March 18, 2020 9:02 AM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>; Davies, Kathy <davies.kathy@epa.gov>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Doug,

Would you please provide a list of wells sampled in 2019 that are not proposed for sampling in 2020? Also, only one well is proposed for PFAS sampling in April 2020. Table A-6C in SAP Rev. 2 identifies several wells for PFAS monitoring

on an annual basis. Wells were last sampled for PFAS in October 2019. Please provide clarification regarding future PFAS sampling.

Thank you.

Debbie

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From: Sutton, Douglas <dsutton@hgl.com>
Sent: Tuesday, March 17, 2020 3:14 PM
To: Rossi, Debra <Rossi.Debra@epa.gov>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Debbie,

Attached is a list of wells that we propose sampling in April and October 2020. Please take a look at it and let us know if you concur with our proposal. The table is based Table A-6C from the SAP Rev 2, and has been modified as follows:

- 52 wells were installed in 2019 as part of the PDI activities performed at the Site (14 of the monitoring wells were not anticipated for installation in March 2019 when the SAP-Rev 2 was submitted to USEPA). Golder recommends including these 52 locations on the well list (Table 1) to establish baseline concentrations in these wells in support of remedial design efforts.
- As part of the ongoing groundwater modelling and upcoming remedial design efforts, focusing monitoring on select wells in the vicinity of the recently installed (non-operational) extraction wells will provide baseline groundwater data prior to start-up of extraction wells (DDA-05-TZ-EXTR, DDA-06-TZ-EXTR, DDA-21-US-EXTR, UPA-01-US-EXTR, and P-6-US-EXTR).
- Artesian Water Company (AWC) installed and brought on-line a manganese and iron removal system in 2019; therefore, Golder recommends discontinuing bi-monthly sampling of the wells listed on Table A-6D of the SAP-Rev 2 and including these wells in the semi-annual event(s) included on Table 1.
- Many wells have a long history of data. Additional data is not needed at this time for wells that are stable and/or decreasing in concentration.
- Some wells have long-screened intervals and/or are screened across the upper and lower sand of the UPA. These wells are less useful for monitoring the water quality in sands and have been replaced on the list by wells in the vicinity that are screened distinctly within one of the sand units. For example, MW-34 is a long-screen well across the upper sand and lower sand that can now be replaced by the wells in the UPA-107 cluster.

If you have any questions or would like to discuss further, please send me an email or we can arrange a call.

Thanks!
Doug

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Tuesday, March 17, 2020 1:57 PM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Thanks, Doug. I will inquire about guidance for field work.

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Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>
Subject: RE: [EXTERNAL] DS&G April groundwater sampling

Debbie,

We are currently scheduled to be in the field starting March 30th and will be in the field for approximately 2-3 weeks. Theresa and I plan on sending you an email later today with the wells that we want to sample for this event and the October event.

Please advise us if EPA management will be giving guidance on proceeding with field work.

Thanks!
Doug

From: Rossi, Debra <Rossi.Debra@epa.gov>
Sent: Tuesday, March 17, 2020 1:13 PM
To: Sutton, Douglas <dsutton@hgl.com>
Cc: Theresa Miller (theresa_miller@golder.com) <theresa_miller@golder.com>; Susanna Mays <susanna@TrustSC.com>
Subject: [EXTERNAL] DS&G April groundwater sampling

Doug,

Please let me know dates on which the next quarterly groundwater monitoring event is expected to take place. This is a R3 management request. EPA is not planning field oversight or split sample collection.

Thank you.

Debbie

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